Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the matter of	)	
	)	
Improving Public Safety Communications	)	
In the 800 MHz Band	)	
	)	WT Docket No. 02-55
Consolidating the 900 MHz Industrial/	)	
Land Transportation Business Pool	)	
Channels	)	
	)	

COMMENTS OF
The 900 MHz Industrial User Group

Pro Tec Communications, Inc.
Shell Oil Products USA
Star Crystal Communications, Inc.
America West Airlines, Inc.
Cobb Electric Membership Corp.
Jackson Electric Membership Corp.
National Rural Electrification Cooperative Association

February 10, 2003

I. INTRODUCTION

The 900 MHz Industrial Users Group submits comments in the above captioned proceeding[1] to convey our concerns regarding the effects the proposed plan would have on incumbent licensees in the 900 MHz band. Allowing Nextel to relocate its operations onto 900 MHz channels under current or proposed plans could migrate the entire interference problem existing on 800 MHz to innocent incumbent licensees on the other band. The result of this action could affect the public's health and welfare in the case of

[1] See *Improving Public Safety Communications in the 800 MHz Band, Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket 02-55, filed December 24, 2002.*

critical infrastructure users (specifically, electric utility cooperatives) and could potentially wipe out small businesses that have relied on Commission-granted protected frequencies. In no case should Nextel or any other entity be allowed to migrate a low site, high power cellular-like deployed system into the 900 MHz band without adhering to common-sense technical and regulatory guidelines. This comment will provide suggestions for those guidelines.

The members of the 900 MHz Industrial Users Group consist of a variety of business entities, including small businesses, a disadvantaged/women-owned business, two electric utility cooperatives, an airline, and a petrochemical producer/refiner.

II. UNLESS CERTAIN GUIDELINES ARE ESTABLISHED PRIOR TO RELOCATION, NEXTEL SHOULD NOT BE ALLOWED TO RELOCATE THEIR LOW SITE, HIGH POWER SYSTEM TO 900 MHZ.

The 900 MHz Industrial Users Group members recognize that according to the Consensus Group Response, it is crucial that Nextel be able to operate at 900 MHz during the 800 MHz realignment implementation period.[2] However, without technical and regulatory guidelines, history is doomed to repeat itself by bringing the same kinds of problems realized on 800 MHz to the 900 MHz band.

There are currently no rules for such situations as they could develop on the 900

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[2] See *Improving Public Safety Communications in the 800 MHz Band, Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket 02-55, filed December 24, 2002, Section IV-D, Page 33.*

MHz band. As an example discussed in the Consensus Plan, on 800 MHz, the Commission codified its co-channel short-spacing licensing policies to permit, by rule, a co-channel separation of as little as 55 miles in recognition of the inherent interference-limited design of cellular-type low power, low site frequency reuse enhanced SMR systems at 800 MHz[3,4]. The Commission, however, has not adopted additional interference standards or requirements for intermodulation and/or adjacent channel interference. These same, or appropriately similar, rules should apply for 900 MHz.

III. SINCE THERE ARE NO REGULATIONS AND PROCEDURES IN PLACE FOR 900 MHZ RELOCATION EFFORTS, INCUMBENT LICENSEES COULD BE IRREPARABLY HARMED.

As previously stated, we as a group understand the need for Nextel to utilize its 900 MHz spectrum to help facilitate the channel moves on 800 MHz. However, without a guard band or some spectrum buffer zone, various forms of interference are nearly a given for incumbent licensees. Yet the way that the 900 MHz trunked radio band has been allocated, there is no vacant spectrum to create an adequate guard band or spectrum buffer zone. In the Consensus Plan, 2 MHz is allocated to separate Public Safety from other licensees as a definitive guard band.

The 900 MHz band plan calls for assignment of transmitting channels separated by roughly 1 MHz. With only 5 MHz of total spectrum, licenses are generally granted in

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[3] Ibid. At Page 41.

[4] See Section 90.621 of the Rules.

5-channel groups. If Nextel were to utilize existing channels owned through various acquisitions, then the likelihood of operations adjacent to incumbent operations is high.

As Nextel has stated that it plans to utilize Motorola's iDEN digital transmission technology, nearby sites may not have enough physical or spectrum separation in order to alleviate the potential for interference. It should be noted that until recently, Nextel had neither offered equipment that operates on the 900 MHz band, nor installed any infrastructure equipment to support such operations. Therefore, there is no history disproving that such close proximity, physically and through spectrum separation, will not cause interference.

The 900 MHz Industrial Users Group agrees and suggests that certain guidelines and procedures should be established both to avoid any interference potential and, in the unfortunate case interference is still experienced, provide a methodology for interference resolution. Although the Consensus Plan provides a good baseline for 800 MHz interference avoidance methodologies and problem resolution, the special conditions surrounding the need for 900 MHz channels for Nextel's relocation efforts do not afford much if any protection for 900 MHz incumbents.

Although the Consensus Plan addresses responsibility for interfering parties, this may not be sufficient for 900 MHz incumbents. As an example, in the Consensus Plan's Ex Parte presentation, it states, "Thus if a licensee in the non-cellular channel block is operating as set forth above and still experiences CMRS-public safety interference at a

certain location, the cellular carriers creating the interference could be required to take such actions as are necessary to eliminate it. If, on the other hand, the non-cellular channel block licensee's system is less robust than the above-specified signal strength parameters in the area of interference, the non-cellular licensee would have to first improve its signal strength before the cellular carriers would be required to undertake any corrective actions. If the non-cellular carrier meets or exceeds the required signal strength and interference persists, the cellular operators would be required to eliminate it through modifications to their operations, either individually or jointly, as may be necessary in each case." [5]

Although this procedure sounds fair and even-handed, in the case of the 900 MHz Industrial Users Group, it is untenable. Small businesses operating as SMRs rely on their radio systems for revenue. If Nextel simply starts operations with no regulatory responsibility other than a simple goodwill gesture to reduce the level of interference, these entities/group members will be in serious danger of losing significant amounts of business. As discussed in a later point in this comment, Nextel has a period of time to respond to reports of interference. By the time the analysis establishing the fact that interference actually exists is completed, affected small businesses will already have lost subscribers.

In fact, under the Consensus Plan, Nextel has no incentive whatsoever to resolve interference matters on 900 MHz. In the case where Nextel-induced interference affects

[5] See *Improving Public Safety Communications in the 800 MHz Band, Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket 02-55, filed December 24, 2002,*

a small business incumbent licensee's operations, it is within Nextel's best interests to delay mitigation and resolution matters as long as possible. Frustrated free-market subscribers will cease service through the incumbent licensee, and look for a better solution. The incumbent licensee, at no fault of its own, loses revenue and its future as a business entity is threatened. Through regulatory means, the Commission should make every effort to prevent this situation from occurring.

In the case of electric utility licensees, such situations have the potential to prevent communications during dangerous conditions, with the foreseeable risk of extreme injury of personnel or even death. When utilities experience interference on their radio system, calls can be placed to the Commission's Enforcement Division for immediate response. In 2000, Lumbee River Electric Membership of Red Springs, North Carolina experienced occasional on-channel interference on their VHF high band repeater channel (call sign KIA365) that regrettably stopped all communications during switching activities. Utility linemen were working with very high voltage transmission lines and needed clear communication with others to know when it was safe to handle the conductors they were repairing. Work was cancelled when the interference rose to a level where work conditions were unsafe. A call was placed to the Commission's offices in Gettysburg, Pennsylvania, and an Enforcement representative from the Commission's Virginia Beach, Virginia, offices was dispatched. Within two days, the Enforcement representative had arrived on-scene and not only had identified the source of the interference, but had also conducted an inspection of the offending station, finding multiple violations of the Commission's rules. In a case where Nextel causes interference

to an electric utility holding a 900 MHz license, the utility must be assured of the same level of response from the Commission's Enforcement Division. According to the tacit agreement within the Consensus Plan to work out interference among licensees, enforcement will not happen.

Cobb Electric Membership Corporation (Cobb EMC) is a 900 MHz licensee who would be affected by any relocation interference issues. Located in Marietta, Georgia, Cobb EMC is the second largest electric cooperative in the United States. Its operation serves one hundred seventy thousand (170,000) utility customers. It also provides power services to dozens of schools and hundreds of businesses. Additionally, it provides power to Cobb County E911, Marietta Police, US Marshall Service, and other law enforcement and public safety entities. Cobb EMC uses hundreds of radios in its everyday operations, and uses the radio system to dispatch trucks and equipment during emergency power restoration activities. Like other electric utilities, Cobb EMC cannot afford any kind of radio interference that may impact the safety and welfare of its workers, and indirectly, its utility customers.

In the case of small business SMRs, Catherine Sutter is the sole proprietor of Pro Tec Communications, Casa Grande, AZ. Pro Tec Communications is a woman-owned business. The Commission has gone to great lengths to promote business for women-owned entities, up to and including its internal declaration of a 5% quota for procurements through women-owned small businesses. Yet, after reading the Consensus Plan, it is ironic that in the case interference from Nextel is ever encountered on her 900

MHz SMR system, the onus of responsibility is bypassed from the Commission's Enforcement Division to Sutter's business. This situation cannot be allowed to occur for any small business, and especially for a disadvantaged or women-owned business entity. In addition, if interference is experienced over an unacceptably long period of time, there are competing carriers – including Nextel – that will undoubtedly pick up accounts if subscribers cancel service with Sutter's company. Fair competition in business will be impossible, especially for disadvantaged businesses. We strongly request the Commission to consider alternatives listed later in this comment in order to prevent this unfortunate yet foreseeable situation from developing.

III. THE 900 MHZ INDUSTRIAL USER GROUP'S SUGGESTED GUIDELINES SHOULD BE EXAMINED AND IMPLEMENTED BY THE COMMISSION IN PARALLEL WITH ANY SUBSEQUENT IMPLEMENTATION OF THE 800 MHz CONSENSUS PLAN OR VARIANT.

Although the Consensus Plan Response delivered a very thorough and complete pronunciation of interference and ways to alleviate its potential for occurrence, many aspects cannot be attributed to 900 MHz. Case in point, the Consensus Plan Response states that, "…In addition, the Consensus Parties would require all cellular licensees in the 861-895 MHz band to suppress OOBE noise by no less than 43+10log(P)dBc, where P is average transmitter power in watts, at the edges of the spectrum allocations, and further reduce OOBE noise by no less than 35 dB on all frequencies greater than 2 MHz outside the spectral allocation. Enhanced CMRS OOBE filtering will be possible as a result of the Consensus Plan's de-interleaving of different land mobile services into contiguous channel blocks, and will essentially eliminate the potential for OOBE noise to

adversely affect receivers in the non-cellular block." First, although these noise suppression factors are beneficial, they are based on a 2 MHz guard band separating the cellular and non-cellular licensees. Second, it is also based on a non-interleaved, contiguous block of channels. In both situations, neither can be attributed to 900 MHz operations due to the Commission's methodology for channel allocations. Thus, the ability to base the technical aspects of the 800 MHz Consensus Plan and Response to 900 MHz relocation situations is seriously flawed. However, the general aspects of the Consensus Plan Response's Appendix F are still an excellent basis for interference mitigation, specifically the Revised Best Practices Guide procedures.[6] Because several of the technical solutions set forth in the Best Practices Guide cannot be applied to 900 MHz, it is strongly suggested that additional procedures be implemented to encompass interference identification, mitigation, mediation, and enforcement. Many of these same suggestions could be used for solutions developed for 800 MHz.

First, the interference measurement techniques as set forth in the Consensus Plan Response is adequate, but should be verified by an independent third party, such as a licensed professional consulting engineer or other recognized professional. In this way the declaration of whether or not interference exists can be taken out of the equation and more concentration can be given to problem resolution. The method of notification of interference as set forth in the Consensus Plan Response is not agreeable. It currently states that "A licensee in the 851-895 MHz range seeking the participation of licensees in

6 See *Improving Public Safety Communications in the 800 MHz Band, Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket 02-55, filed December 24, 2002, Appendix F-5, 3.0a.*

the 861-895 MHz range in evaluating an alleged interference occurrence shall post a standard interference complaint to an e-mail box operated jointly by the operators above 861 MHz."[7] Instead, in this situation, a formal telephone call should be placed directly to a centralized Nextel office during regular business hours via an arranged telephone number for immediate notice. The Consensus Plan Response further states that initial response to the complaint should be made by the alleged source of interference within two business days. Although this initial timeline is acceptable, the Response continues to suggest an on-site analysis within five business days. At this point, the incumbent licensee has experienced interference for a total of nine calendar days. We are coining a phrase to describe this situation as the "Nine Day Rule". In both the commercial and utility world, nine days with interference is entirely unacceptable.

It should be understood that technically, once a radio system is implemented at a particular site, very few things change operating conditions. Once the power level and antenna configuration is set up, generally it will not be modified again. Therefore, waiting nine days before resolution begins seems inappropriate. We suggest that Nextel notify the local incumbent licensee thirty days prior to its system being reconstructed on 900 MHz channels and provide an accurate schedule of initial transmitter key-up time. Under this procedure, the incumbent would have the knowledge and opportunity to look for interference issues long before Nextel's engineering and technical specialists have left the local area. In the event an interference issue is found, the incumbent licensee would be responsible for bringing in a licensed professional engineer or other recognized

[7] Ibid, Appendix F-5, 3.1.

professional to verify the claims. Having 30 days notice would allow the incumbent licensee to arrange for the independent third party's visit.

Fortunately, the 800 MHz interference problem identified several contributing causes, among them Nextel's low site, high power deployment technique. Since this element of the problem is fully understood and acknowledged by Nextel's engineering staff, interference mitigation is fairly straightforward. A site technician can quickly lower transmitter power to see if the interference is alleviated, and if not, they can arrange to reposition, relocate, or replace site antennas. Such simple modifications can be handled in short time periods; these same skills and actions are often called upon for storm restoration, and are not out of the ordinary to request from Nextel in a short time period. Therefore, it would be appropriate to ask Nextel to mitigate 900 MHz interference problems within three business days of receiving notice with professional verification of claims.

We suggest that affected 900 MHz licensees send a copy of the independent third party's report to the Commission's Enforcement Division when notifying Nextel of the situation. If the interference is not reduced or eliminated to the incumbent licensee's satisfaction, the incumbent would then have the right to contact the Enforcement Division and request priority assistance. The Enforcement Division would have already received the interference report and have prior knowledge of the problem. As a result, the Commission would also have the ability to track the number of verifiable interference claims and how many were not immediately resolved. This would be an excellent

opportunity for Nextel to demonstrate how quickly it can mitigate interference complaints, and for the Enforcement Division to demonstrate how effective its regulatory power can be in such cases.

In the event of a disputed interference problem, the Commission should respond in a timely manner. In the case of clear violation of the suggested procedures (assuming this framework is adopted and becomes the rule), mandate that the offending site be shut off immediately, and the offending licensee liable for substantial fines. The size of the fine should relate to the amount of potential damage that the interference could cause to the incumbent licensee in the unfortunate event that mitigation did not occur. Such fines should be substantial, as some licensees have spent millions of dollars acquiring their licenses and developing their systems. Notices of Apparent Liability are regularly mentioned in Commission press releases; industry pressure from such exposure should prevent any reoccurrence of the interference.

Lastly, the Consensus Plan Response does not adequately address how long Nextel plans to stay on 900 MHz channels while relocation efforts at 800 MHz are commencing. Although milestones are mentioned, it is anticipated that a "temporary" move to 900 MHz could encompass several years. Therefore, it is imperative that the Commission accepts this recommendation wholly and completely to protect the incumbent licensees on that band.

VI. CONCLUSION

The 900 MHz Industrial Users Group understands how various industry participants are attempting to alleviate the unfortunate levels of interference being experienced mostly by public safety entities. In addition, The 900 MHz Industrial Users Group understands how Nextel must utilize 900 MHz channels in order to allow other licensees to move their systems to new frequencies. However, without methodologies and procedures for interference identification, mitigation, mediation, and enforcement, the same kind of interference problems realized on 800 MHz by public safety users will be encountered by 900 MHz incumbent licensees when Nextel moves to that band.

In summary, we request that the Commission adopt the following guidelines:

- Potentially impacted incumbents receive 30-day notice of 900 MHz construction from Nextel.
- Nextel provide an "interference hot line" telephone number for immediate notification of interference.
- If interference is detected or suspected, incumbents provide Nextel with independent third party assessment of the interference matter. The Commission's Enforcement Division should also be served with a copy of the assessment report.
- Nextel must resolve the interference within three days of notification.
- If the interference is not mitigated to the incumbent's satisfaction within the three days, then the Commission's Enforcement Division will investigate the complaint immediately.
- If the interference is confirmed to emanate from Nextel's equipment by the

Enforcement Division representative, the site will be shut down and the interfering party will be fined substantially in a manner consistent with the potential revenue losses due to the interference that could be experienced by the incumbent licensee.

We urge the Commission to carefully examine and adopt these recommendations.

Respectfully submitted,

COBB ELECTRIC MEMBERSHIP CORPORATION

By: /s/ Lonnie Hale
Lonnie Hale
Senior Vice President, Corporate Services
1000 EMC Parkway
Marietta, GA 30061
(770) 429-2100
lonnieh@cobbemc.com

JACKSON ELECTRIC MEMBERSHIP CORPORATION

By: /s/ James Smith
Division Manager, Engineering and Operations
850 Commerce Highway
PO Box 38
Jefferson, GA 30549
(706) 367-5281
jsmith@jacksonemc.com

NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

Wallace F. Tillman
Vice President, Energy Policy & General Counsel
4301 Wilson Boulevard
Arlington, VA 22203
703-907-5787
wallace.tillman@nreca.org

PRO TEC MOBILE COMMUNICATIONS, INC.

By: /s/ Catherine E Sutter
President
1641 N Pinal Avenue
Casa Grande, AZ 85222
(520) 836-2025
cathys@cybertrails.com

SHELL OIL PRODUCTS USA, INC.

By: /s/ Margo Caramagno
2101 East Pacific Coast Highway
Wilmington, CA 90744
(310) 522-6200
mfcaramagno@equilon.com

AMERICA WEST AIRLINES, INC.

By: /s/ Doug Cummings
Senior Director, Information Systems
4000 East Sky Harbor Boulevard
Phoenix, AZ 85034
(480) 693-5050
doug.cummings@americawest.com

STAR CRYSTAL COMMUNICATIONS, INC.

By: /s/ Richard Walsh
Richard Walsh
President
2606 Byrum Boulevard
Joliet, IL 60431
(815) 436-5338
richard.walsh5 @attbi.com

February 10, 2003